Iowa Department of Natural Resources
Environmental Protection Commission

ITEM **8** **DECISION**

TOPIC **Contract – United States Geological Survey – Water Level Measurements**

The Department requests Commission approval of a $27,500 contract with the United States Geological Survey to resume a program to estimate water levels in Iowa's groundwater systems.

The purpose of this Agreement is to collect and analyze two complete sets of state-wide measurements of ground water levels for aquifers in Iowa using the existing ground-water well network that was established by the USGS and IDNR, but suspended in 2003 due to lack of funding. This network provides information on the availability of groundwater resources in the state and provides information on trends in water levels. The water level information will be important for the upcoming development of the state's water plan.

Funding for this contract comes from Funds Appropriated for the State Water Plan.

Mary Skopec
Section Supervisor
Water Monitoring and Assessment
Iowa Geological Survey and Land Quality Bureau
Environmental Services Division

June 10, 2007

Budget

Party	Amount of Contribution
USGS	$22,500.00
DNR	$27,500.00
Total	$50,000.00

Appendix A: Program to measure ground-water levels across Iowa in 2007

A long-term regional ground-water data base is needed to evaluate the effects of natural and human-induced stresses on the principal ground-water systems in Iowa. Information from the long-term data base will provide baseline information for short-term aquifer studies, as well as documenting long-term trends in Iowa's ground-water supply. Information from the short-term and long-term data bases will be used to assess the ground-water resource, project future conditions of supply, address contamination concerns, and provide the information necessary to effectively manage the resource.

The primary objectives of the Iowa ground-water-level monitoring network are to:

1. collect data documenting the change in ground-water storage over time in the principal aquifers;
2. provide both the long-term and short-term data necessary to assess and predict the response of hydrologic systems to natural climatic variations and human-induced stresses;
3. quantify the hydrologic characteristics of aquifers including transmissivity, hydraulic conductivity, and specific capacity;
4. provide historical baseline data for aquifer studies.

The current ground-water-level monitoring network in Iowa consists of 156 wells completed in the principal bedrock and surficial aquifers that supply ground water to numerous users throughout the State. Water levels are to be measured in late July and early September 2007 and entered into the USGS Groundwater Site Inventory database. The Devonian aquifer water-level network was evaluated during the 1999-2000 water year and several wells have been located in over 20 counties in North-Central, Iowa to represent the potentiometric surface of the aquifer. Other aquifers that have been evaluated in recent years include: the Cambrian-Ordovician (state-wide), the Silurian (north-eastern), and the Dakota (north-western). Network data collected from all aquifers are compiled, and published in the annual U.S. Geological Survey Water-Resources Data, Iowa report. The U.S. Geological Survey Open-File Report 92-27 titled "The Ground-Water-Level Monitoring Network in Iowa" was published in 1992 and describes in detail the ground-water-level monitoring network in Iowa.

Ground-Water Stations

PERIOD OF PROJECT: Continuous since 1939
PROJECT CHIEF: S. Mike Linhart (slinhart@usgs.gov) **STUDY AREA:** Statewide
COOPERATING AGENCIES: Iowa Department of Natural Resources (Geological Survey Bureau)

NEED FOR STUDY:

A long-term regional ground-water data base is needed to evaluate the effects of natural and human-induced stresses on the principal ground-water systems in Iowa. Information from the long-term data base will provide baseline information for short-term aquifer studies, as well as documenting long-term trends in Iowa's ground-water supply. Information from the short-term and long-term data bases will be used to assess the ground-water resource, project future conditions of supply, address contamination concerns, and provide the information necessary to effectively manage the resource.

Click on sites below to see real-time ground-water level data

Johnson County Site #414315091252002 Elmira Deep (formerly 22M2) Short
Montgomery County Site #410057095075101 John Ogden Well

OBJECTIVES:

The primary objectives of the Iowa ground-water-level monitoring network are to:

5. collect data documenting the change in ground-water storage over time in the principal aquifers;

6. provide both the long-term and short-term data necessary to assess and predict the response of hydrologic systems to natural climatic variations and human-induced stresses;

7. quantify the hydrologic characteristics of aquifers including transmissivity, hydraulic conductivity, and specific capacity;

8. provide historical baseline data for aquifer studies.

PROGRESS:

The current ground-water-level monitoring network in Iowa consists of 156 wells completed in the principal bedrock and surficial aquifers that supply ground water to numerous users throughout the State. Water levels are measured on a quarterly or monthly basis and entered into the USGS Groundwater Site Inventory database. The Devonian aquifer water-level network was evaluated during the 1999-2000 water year and several wells have been located in over 20 counties in North-Central, Iowa to represent the potentiometric surface of the aquifer. Other aquifers that have been evaluated in recent years include: the Cambrian-Ordovician (state-wide), the Silurian (north-eastern), and the Dakota (north-western). Network data collected from all aquifers are compiled, and published in the annual U.S. Geological Survey Water-Resources Data, Iowa report. The U.S. Geological Survey Open-File Report 92-27 titled "The Ground-Water-Level Monitoring Network in Iowa" was published in 1992 and describes in detail the ground-water-level monitoring network in Iowa.